REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for considering the IDS filed on 6/14/2004, withdrawing the rejection to the drawings, and carefully considering this application.

Preliminary Matters

Because the amendments in the response dated January 19, 2007 were entered only for the purpose of Appeal, the amendments requested above are performed with respect to the application at the time of the Office Action dated November 21, 2006.

Disposition of Claims

Claims 1-36 were pending in this application. Claims 2 and 20 are cancelled by way of this reply without prejudice or disclaimer. Claims 1 and 19 are independent claims. The remaining claims depend, directly or indirectly, from claim 1 and 19.

Claim Amendments

Claims 1, 3-6, 13, 15, 19, 21-25, 31, and 33 are amended by way of this reply. Specifically, claims 1 and 19 have been amended to clarify the invention. Dependent claims have been amended for consistency with the amendments to claims 1 and 19. Support for the amendments may be found, for example, in Figures 3, 6, 11, 12A, and 12B and paragraphs [0034] – [0036] of the Instant Specification. The aforementioned paragraph numbers are with respect to the paragraph numbering

of the version of the application available on Private Pair. Applicants assert that no new matter is introduced by way of these claim amendments.

Amendments to the Specification

The Amendments to the Specification are with respect to the paragraph numbering of the version of the application available on Private Pair. Applicants note that the inconsistency between the paragraph number of the version of the application on private pair and the version of the application as filed is due to the fact that paragraph [0001] and [0004] of the private pair version do not have paragraph numbers in the application as filed.

Substantively, Paragraphs [0005], [0007], [0022], [0029], [0031], [0039], [0056], [0060], and [0064] have been amended by way of this reply to correct typographical errors. Further, the amendments in paragraphs [0050] and [0058] show the amendments made on September 20, 2006 with the paragraph numbering of the version of the application available on private pair (as requested by the Examiner).

Amendments to the Drawings

Applicants hereby submit a replacement sheet for Figure 5. Figure 5 is amended in the replacement sheet to correct clerical errors in the reference numbers as discussed above. No new subject matter has been added by way of the amendments to Figure 5. Applicants respectfully request that the replacement sheet be accepted by the Examiner.

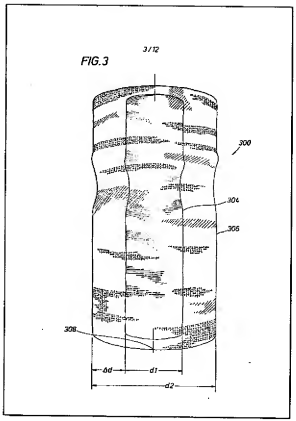
Rejections under 35 U.S.C. §112, first paragraph

Claims 13 and 31 were rejected under 35 U.S.C. 112, 2nd paragraph as being indefinite. The indefinite nature of the claims and their subsequent interpretation was due to insufficient antecedent basis. This has been corrected by way of amendments to these claims. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C. §102(b)

Claims 1-8, 11-12, 19-26, 29-30 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,078,867 ("Plumb"). As discussed above, claims 2 and 20 are cancelled by way of this reply. Accordingly, the rejection is moot with respect to claims 2 and 20. To the extent that this rejection applies to the remaining claims, this rejection is respectfully traversed.

Amended independent claims 1 and 19 require, in part, "displaying a first layer of a borehole model, wherein the first layer represents a circumferential dimension of a borehole for a plurality of depths along the borehole trajectory; and displaying a second layer extending radially outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory." Figure 3 shows an example embodiment of the invention with a first layer 304 representing the circumferential



dimension of the borehole and the second layer 306 extending radially outward from the first layer. Specifically, as shown by the positive value of Δd in the example of Figure 3, the second layer 306 has a greater radius in at least one direction than the first layer 304 and therefore is extended radially outward from the first layer. Further, as discussed in [0035] the second layer may represent measurement data, such as, for example, gamma ray count, lithography, resistivity, etc.

For anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. *See* MPEP 2131. Applicants respectfully assert that Plumb fails to disclose "displaying a second layer extending radially outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory."

Specifically, Plumb is directed to creating a model which shows the shape of a borehole and color applied to the model to show information about the borehole (See Plumb, abstract). In order to create the shape, Plumb teaches stacking a series of ellipses along an axis to approximate the shape of the borehole (see, e.g., Plumb, col. 4, ll. 27 – 42 and Figure 3). Because the ellipses are stacked, the ellipses of Plumb may not be use to disclose "a second layer *extending radially outward* from the first layer" as would be required by the claims of the present invention.

Furthermore, Plumb teaches specifying positions in which the borehole model fails by using color coding (see, Plumb, col. 4, ll. 11-15). Because the color coding is mere color applied to a mesh formed by the stack of ellipses, the color coding may not be used to disclose "a second layer *extending radially outward* from the first layer" as would be required by the claims of the present invention. In fact, Plumb is completely silent with regards to "a second layer extending radially

outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory."

As discussed above, Plumb fails to disclose all the limitations of claims 1 and 19. Accordingly, claims 1 and 19 are patentable over Plumb et al. Dependent claims 3-8, 11-12, 21-26 and 29-30 are allowable for at least the same reasons. Withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C. §103

To establish a *prima facie* case of obviousness "...the prior art reference (or references when combined) must teach or suggest all the claim limitations" (*see,* MPEP § 2143.03). Further, "all words in a claim must be considered in judging the patentability of that claim against the prior art" (*see,* MPEP § 2143.03).

Claims 9, 10, 27, and 28

Claims 9, 10, 27, and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Plumb in view of "Application of 3D Visualization Software to Reservoir Simulation Post-Processing," SPE 24433, 1992 ("Austin"). To the extent that this rejection applies to the amended claims, this rejection is respectfully traversed.

Claims 9-10 and 27-28 depend from claims 1 and 19. As shown above, Plumb fails to teach or suggest at least one limitation of claims 1 and 19 (*e.g.*, "displaying a second layer extending radially outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory"). Austin does not teach or suggest that which

Plumb lacks. Specifically, Austin is completely silent with respect to "a second layer extend radially outward from the first layer the second layer represents at least one of a plurality of measurement data along the borehole trajectory."

Therefore, Plumb and Austin, whether considered separately or in combination, cannot teach or suggest each and every limitation of independent claims 1 and 19. Thus, claims 1 and 19 are patentable over Plumb in view of Austin. Dependent claims 9, 10, 27, and 28 should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 13-15 and 31-33

Claims 13-15 and 31-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Plumb in view of U.S. Patent No. 4,467,461 ("Rice"). This rejection is respectfully traversed.

Claims 13-15 and 31-33 depend from claims 1 and 19. As shown above, Plumb fails to teach or suggest at least one limitation of claims 1 and 19 (*e.g.*, "displaying a second layer extending radially outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory"). Rice does not teach or suggest that which Plumb. lacks. In particular, Rice is completely silent with respect to "a second layer extend radially outward from the first layer the second layer represents at least one of a plurality of measurement data along the borehole trajectory."

Therefore, Plumb. and Rice, whether considered separately or in combination, fail to teach or suggest each and every limitation of independent claims 1 and 19. Thus, claims 1 and 19 are patentable over Plumb in view of Rice. Dependent claims 13-15, and 31-33 should also be

patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 16-18 and 34-36

Claims 16-18 and 34-36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Plumb in view of "Reservoir Description for Optimal Placement of Horizontal Wells", SPE 35521, 1996 ("Bryant"). To the extent that this rejection applies to the amended claims this rejection is respectfully traversed.

Claims 16-18 and 34-36 depend from claims 1 and 19. As shown above, Plumb fails to teach or suggest at least one limitation of claims 1 and 19 (*e.g.*, "displaying a second layer extending radially outward from the first layer, wherein the second layer represents at least one of a plurality of measurement data along the borehole trajectory"). The Bryant et al. paper does not teach or suggest that which Plumb lacks. Specifically, Bryant is completely silent with respect to "a second layer extend radially outward from the first layer" much less "the second layer represents at least one of a plurality of measurement data along the borehole trajectory."

Therefore, Plumb and Bryant, whether considered separately or in combination, cannot teach or suggest each and every limitation of independent claims 1 and 19. Thus, claims 1 and 19 are patentable over Plumb et al. in view of Bryant. Dependent claims 16-18, and 34-36 should also be patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 09428/113002).

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Respectfully submitted,

By _____

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Attachment (Replacement Sheet for Figure 5)